RESEARCH HIGHLIGHT

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FIRST NATION ECONOMIES: A COMPARATIVE PERSPECTIVE

A SOCIO-ECONOMIC BASELINE STUDY BETWEEN FIRST NATION COMMUNITIES AND NON-FIRST NATION COMMUNITIES

INTRODUCTION

The purpose of this comparative study is to develop a descriptive model of the economies of First Nation communities and to identify similarities and differences with non-First Nation communities.

OVERVIEW

The research report discusses regional and First Nation economic development, based on major recent studies, to provide the context for local development. The report briefly describes current on-reserve housing programs and considers the connection between housing and economic development.

The research develops a model of the economy of a small community. The model is a framework for analysis of local economic development consisting of five factors

1. connection to cities
2. economic base of rural and remote communities
3. local capacity
4. housing
5. recent growth

The study applies this framework to 239 First Nation communities. A similar number of non-First Nation communities are matched to the First Nation communities based on location and population size.

Using factor analysis, the study finds differences between First Nation and non-First Nation communities in many variables representing the five factors of economic development.

Cluster analysis is then used to sort the communities into 10 similar groups based on the five factors.

The study differs from earlier comparative studies as it shifts the focus to differences in economic development from disparities in well-being. The findings of the quantitative analysis are suggestive rather than definitive.

Limitations of the study

The selected non-First Nation communities are not representative of the overall non-First Nation population, most of whom live in metropolitan and large urban areas. The selected communities are not as affluent; they are not growing as rapidly as the cities; and many are in decline.

DETAILED METHODOLOGY

Selected communities

The core data set for this study is the 1996 and 2001 Census of Canada Community Profiles. A community profile consists of numerous data points drawn from the census questionnaire. To this database, the researchers added two additional data sets: Statistic Canada's 2001 *Business Register*[1] and the *First Nations Profile Database* from Indian and Northern Affairs Canada (INAC).

[1] Statistics Canada's Business Register (BR) contains information about some two million businesses. The number of businesses by detailed industry sector along with size class (ranges for number of employees) is available for all communities, including the small urban areas and First Nation communities included in this study.

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The comparative analysis included 239 First Nation communities and 251 non-First Nation communities. This reflects the number of census subdivisions (CSDs) with a population of 250 or more in 2001 where 1996 data was also available. The non-First Nation communities are matched with First Nation communities based on proximity and similarity in population size. Proximity is determined based on the CSD code, with communities in the same census division (CD) being treated as being closest together.

Among the 251 non-First Nation communities in the sample, there are 18 non-reserve communities with a population overwhelmingly—90 per cent or higher—Aboriginal. These are located in northern Quebec, Alberta, Saskatchewan and the Northwest Territories. Among the 239 on-reserve communities in the sample, there are 15 with a non-First Nation majority. These are all in British Columbia. They are essentially bedroom communities for the non-First Nation, urban population. The Aboriginal share of population is therefore used as a central reporting variable in the analysis.

FRAMEWORK

The five-factor framework is designed to analyse economic development at the small community level. The framework is intended to provide a basis for quantitative analysis, for the selection of variables and the exploration of relationships between those variables. It is not in the form of a rigorous theory with testable hypotheses, but should be seen as a way of imposing some order on a large set of possible influences.

In addition to the variables included within the framework, there are three central reporting variables that are applied to the results of the factor analysis and cluster analysis as they are a primary focus of this report. These variables include:

- level of economic development, which is measured as earnings from employment averaged over the entire population aged 15 years and over;
- recent growth, which is measured as change in average earnings from employment since the previous census; and
- the Aboriginal share of population.

FACTOR ANALYSIS

The report gathers many variables that describe the various attributes deemed important to the economic success of a community according to the five-factor framework. The report describes some of the variable values specific to the First Nation and non-First Nation communities selected for comparative study.

Factor analysis, a data-reduction technique, is then applied to these variables. This identifies combinations of the variables that account for a large share of the variance, or difference, between the variables. The goal is to discover factors that can be easily interpreted, so the report seeks factors that are closely associated with some of the variables and not associated with other variables. Such patterns in the data are then examined in relation to the level of economic development.

The economic development framework serves as the basis for selecting and organizing variables. The following are some examples of variables representing the five factors of the framework for local economic development:

1. Connection to cities

Variables relate to:

i the relationship to cities, and

ii the share of jobs held by residents of the community that are located outside the community.

2. Economic base of rural and remote communities

Variables relate to:

i the number and types of jobs, and

ii industrial structure.

3. Local capacity

Variables relate to:

i population structure,

ii opportunity and dependency, and

iii education.

4. Housing

Among others, the housing variables include:

i recently constructed dwellings as a share of the stock,

ii the average age of the stock,

iii the need for major repairs, and

iv band housing as a share of the stock.

5. Recent growth

Variables include:

i change in the population over the past five years,

ii the change in the adult population, and

iii the share of the population that moved into the community in the past year.

CLUSTER ANALYSIS

The cluster analysis finds similarities between the selected First Nation and non-First Nation communities. The variables used to form the clusters are once again based on the five-factor framework for economic development and are similar to those used in the factor analysis.

Cluster analysis sorts the communities into groups based on their similarity. Clustering focuses on the distance of the value of a variable from its mean. To ensure the boundaries between the clusters are as revealing as possible, all variables have been scaled to a similar standard deviation, so that no one variable dominates a cluster.

The report forms 10 clusters, a number chosen to allow a number of different "stories" to emerge. Fewer clusters may result in groups that are too heterogeneous, while more clusters may create groups that are not significantly different from each other.

Once the clusters are formed based on the variables describing the five factors of the framework, the level of economic development and recent growth for each cluster is examined. The report describes and interprets the groups and the differences between them.

FINDINGS

Economic development

As a measure of economic development, the report uses earnings per employed person aged 15 years or more. For the communities in the sample, average earnings from employment per person during 2000 in First Nation communities are a little more than one-half of the average for the non-First Nation communities. Employment as measured at a given point in time in First Nation communities is roughly 66 per cent of that in non-First Nation communities.

The report proposes that the level of employment is primarily a reflection of the availability of jobs or of economic opportunity and rate of pay reflects the quality of jobs, reflecting both economic opportunity and capacity (education and work experience). Interpreted this way, difference in opportunity is a more important cause of economic discrepancies between First Nation and non-First Nation communities than difference in capacity.

A large majority of the First Nation communities have average incomes in the $4,000-to-$10,000 range, while non-First Nation communities for the most part have average incomes between $10,000 and $20,000. Selecting $10,000 and $20,000 in average income from employment as boundaries for economic development levels results in the following:

Census Subdivisions (CSD) with complete data	First Nation	Non-First Nation
Less than $10,000	172	26
$10,000 to $20,000	61	174
More than $20,000	6	51
	239	251

Comparison of local economies

A comparison of the First Nation and non-First Nation communities selected for the analysis based on the five-factor framework highlights the following:

- Population size and growth—while average population is much larger in the non-First Nation CSDs because cities are included, population growth is much higher on reserves.
- Stability of population—people living on reserves move in and out of their communities somewhat less than average Canadians move in and out of their communities.
- Connection to cities—reserve communities are relatively concentrated in two groups: part of urban centres and remote "uninfluenced" zones. Non-First Nation communities, on the other hand, are more likely to fall into the in-between range of strongly, moderately or weakly influenced by their proximity to urban centres.
- Employment inside and outside the community—people on-reserve who are employed are less likely to work outside their community than those in comparable non-First Nation communities. Less than one-quarter of reserve residents work off-reserve, while one-third of people in comparable non-First Nation communities commute to another CSD.
- Housing—while housing stock kept pace with the population growth on-reserve during the 1996 to 2001 period, the state of repair of housing on-reserve deteriorated. The number of persons per room is 50 per cent higher in First Nation communities than in their non-First Nation counterparts.

FACTOR ANALYSIS

The results of the factor analysis reveal six factors responsible for the major variance in the set of variables for the selected communities.

1. Age and family structure of the population including demographics and housing characteristics of the communities (52 per cent of the variance)
2. Educational attainment (13 per cent)
3. Job availability (9 per cent)
4. Growth (7 per cent)
5. Specialized industrial structure (5 per cent)
6. In-migration to the community (4 per cent)

The above factor weights show that the variation in the selected variables is dominated by a combination of population structure variables that is not closely associated with the level of earnings from employment, but very much with being Aboriginal. This pattern is not necessarily central to the differences in economic development between the communities.

CLUSTER ANALYSIS

Unlike the factor analysis, the results of the cluster analysis indicate a strong link between the framework variables and the central reporting variables. The level of economic development and Aboriginal share of population vary considerably between the clusters. The growth of average earnings from employment does not appear to be closely connected to the variables representing the five factors in the framework.

The strongest association within the clusters appears to be related to the Aboriginal share of the population. This share is either very high or very low, and few communities have equal shares of Aboriginal and non-Aboriginal people. When a cluster consists predominately of reserves, the other communities in the cluster tend to have large Aboriginal populations. The same holds true in the opposite case.

The clusters are reasonably well defined, with reasonably clear dividing lines. This gives rise to different "stories"—some about growth or decline, some about the economic base, some about isolation or integration. The resulting clusters can be characterized as follows:

1. Remote and isolated Aboriginal communities with many children and very low education achievement
2. Open Aboriginal communities with links to urban centres, but a weak economic base and many children
3. Communities with rapid employment growth
4. First Nation communities with declining employment
5. Non-First Nation communities with a weak and declining employment base
6. Non-First Nation communities with some employment growth
7. Farming communities
8. Open urban communities
9. Banff National Park
10. Isolated communities in decline

As the clusters are ordered by economic development, generally, the communities in the first few clusters have the lowest level of economic development, while those in the last few clusters have the highest. While this is the general pattern, there are exceptions. For example, cluster eight (open urban communities) contains several communities with average earnings from employment of less than $10,000. Further investigation is needed to reveal why these have characteristics similar to others in the cluster, yet a different level of economic development.

CONCLUSION

In spite of the similarity in size and location, the economies of the First Nation communities have only just over one-half the level of economic development of the non-First Nation communities, measured by average earnings from employment.

Factor analysis is used to find the differences between First Nation and non-First Nation communities in the many variables representing the five factors of economic development. Cluster analysis is used to sort the communities into 10 similar groups based on the five factors. A number of different economic development "stories" emerge, with First Nation communities generally following a storyline of slow economic development.

It can be concluded from the clusters that typically, non-First Nation communities have an economic rationale for their existence that gives them a certain level of employment and recent growth or decline is a result of whether the economic base is shrinking or expanding. The First Nation communities in the study demonstrate the lack of jobs, low education, isolation and high fertility rates that are typical of most communities, and growth that is not clearly connected to the economic base.

The findings are consistent with historical exclusion, the cultural and institutional distinctiveness of First Nation people and the high incidence of physical and mental health problems in First Nation communities—issues highlighted by the Royal Commission on Aboriginal Peoples.

CMHC Project Manager: Tan Crombie

Consultant: Informetrica Limited

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or contact:

Canada Mortgage and Housing Corporation
700 Montreal Road
Ottawa, Ontario
K1A 0P7

Phone: 1 800 668-2642
Fax: 1 800 245-9274

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